

## APPENDIX 2 – SUMMARY OF UNADJUSTED PESTICIDE VOC EMISSIONS

### 1. Sacramento Metropolitan Area - NAA 1

**TABLE A2-1a:** Top ten primary active ingredients contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 1, the Sacramento Metropolitan Area.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 1 May – Oct 2007 emissions
1,3-DICHLOROPROPENE	0.274	21.95
CHLORPYRIFOS	0.116	9.32
METHYL BROMIDE	0.068	5.41
TRIFLURALIN	0.057	4.60
DIMETHOATE	0.049	3.96
METAM-SODIUM	0.041	3.27
THIOBENCARB	0.039	3.15
OXYFLUORFEN	0.038	3.04
PROPANIL	0.029	2.32
PENOXSULAM	0.027	2.14

**TABLE A2-1b:** Top ten primary active ingredients contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 1, the Sacramento Metropolitan Area.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 1 May – Oct 2008 emissions
1,3-DICHLOROPROPENE	0.122	11.26
CHLORPYRIFOS	0.121	11.15
BIFENTHRIN	0.061	5.57
THIOBENCARB	0.046	4.27
METHYL BROMIDE	0.046	4.26
TRIFLURALIN	0.034	3.16
DAZOMET	0.033	3.04
DIMETHOATE	0.031	2.90
PROPANIL	0.030	2.75
OXYFLUORFEN	0.028	2.60

**TABLE A2-1c:** Top ten primary active ingredients contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 1, the Sacramento Metropolitan Area.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 1 May – Oct 2009 emissions
1,3-DICHLOROPROPENE	0.250	21.57
CHLORPYRIFOS	0.086	7.42
THIOBENCARB	0.052	4.53
PROPANIL	0.052	4.47
BIFENTHRIN	0.049	4.20
METHYL BROMIDE	0.038	3.33
TRIFLURALIN	0.035	3.02
POTASSIUM N-METHYLDITHiocarbamate	0.033	2.89
OXYFLUORFEN	0.033	2.84
METAM-SODIUM	0.032	2.76

**TABLE A2-1d:** Top ten primary active ingredients contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 1, the Sacramento Metropolitan Area.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 1 May – Oct 2010 emissions
1,3-DICHLOROPROPENE	0.081	7.37
BIFENTHRIN	0.079	7.21
CHLORPYRIFOS	0.076	6.85
METHYL BROMIDE	0.063	5.69
TRIFLURALIN	0.054	4.90
THIOBENCARB	0.048	4.32
ABAMECTIN	0.038	3.44
PROPANIL	0.038	3.42
PENOXSULAM	0.037	3.35
ETHALFLURALIN	0.030	2.76

**TABLE A2-1e:** Top ten pesticide application sites contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 1.

Application Site	Emissions (tons/day)	Percent of all NAA 1 May – Oct 2007 emissions
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	0.299	24.00
RICE (ALL OR UNSPEC)	0.160	12.88
TOMATOES, FOR PROCESSING/CANNING	0.138	11.10
RIGHTS OF WAY	0.076	6.09
STRUCTURAL PEST CONTROL	0.066	5.33
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.061	4.89
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.053	4.27
LANDSCAPE MAINTENANCE	0.048	3.84
UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	0.044	3.54
GRAPES, WINE	0.042	3.41

**TABLE A2-1f:** Top ten pesticide application sites contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 1.

Application Site	Emissions (tons/day)	Percent of all NAA 1 May – Oct 2008 emissions
RICE (ALL OR UNSPEC)	0.159	14.63
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	0.148	13.59
TOMATOES, FOR PROCESSING/CANNING	0.136	12.50
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.098	9.00
RIGHTS OF WAY	0.080	7.32
STRUCTURAL PEST CONTROL	0.062	5.72
LANDSCAPE MAINTENANCE	0.041	3.79
GRAPES, WINE	0.040	3.71
ALMOND	0.039	3.58
ALFALFA (FORAGE - FODDER) (ALFALFA HAY)	0.031	2.83

**TABLE A2-1g:** Top ten pesticide application sites contributing to **2009** May–October ozone season *unadjusted* VOC emissions in NAA 1.

Application Site	Emissions (tons/day)	Percent of all NAA 1 May – Oct 2009 emissions
RICE (ALL OR UNSPEC)	0.192	16.55
GRAPES, WINE	0.178	15.39
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.129	11.14
TOMATOES, FOR PROCESSING/CANNING	0.127	11.02
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	0.115	9.92
STRUCTURAL PEST CONTROL	0.053	4.57
RIGHTS OF WAY	0.049	4.26
LANDSCAPE MAINTENANCE	0.042	3.61
ORNAMENTAL TURF (ALL OR UNSPEC)	0.033	2.89
ALMOND	0.032	2.80

**TABLE A2-1h:** Top ten pesticide application sites contributing to **2010** May–October ozone season *unadjusted* VOC emissions in NAA 1.

Application Site	Emissions (tons/day)	Percent of all NAA 1 May – Oct 2010 emissions
RICE (ALL OR UNSPEC)	0.206	18.72
TOMATOES, FOR PROCESSING/CANNING	0.177	16.06
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	0.161	14.61
RIGHTS OF WAY	0.059	5.36
GRAPES, WINE	0.053	4.81
STRUCTURAL PEST CONTROL	0.046	4.22
LANDSCAPE MAINTENANCE	0.046	4.16
ALMOND	0.038	3.43
COMMODITY FUMIGATION	0.034	3.09
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.033	3.02

**TABLE A2-1i:** *Unadjusted 2007* May–October VOC emissions in NAA1 by ARB emission inventory classification (tons per day, tpd).

NAA 1 - 2007	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.062	0.000
NON-METHYL BROMIDE EMISSIONS	1.110	0.066

**TABLE A2-1j:** *Unadjusted 2008* May–October VOC emissions in NAA1 by ARB emission inventory classification (tons per day, tpd).

NAA 1 - 2008	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.041	0.000
NON-METHYL BROMIDE EMISSIONS	0.979	0.062

**TABLE A2-1k:** *Unadjusted 2009* May–October VOC emissions in NAA1 by ARB emission inventory classification (tons per day, tpd).

NAA 1 - 2009	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.035	0.000
NON-METHYL BROMIDE EMISSIONS	1.066	0.053

**TABLE A2-1l:** *Unadjusted 2010* May–October VOC emissions in NAA1 by ARB emission inventory classification (tons per day, tpd).

NAA 1 - 2010	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.057	0.000
NON-METHYL BROMIDE EMISSIONS	0.993	0.047

## 2. San Joaquin Valley - NAA 2

**TABLE A2-2a:** Top ten primary active ingredients contributing to **2007** May–October ozone season *unadjusted* VOC emissions in NAA 2, the San Joaquin Valley.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 2 May – Oct 2007 emissions
1,3-DICHLOROPROPENE	5.465	21.99
METAM-SODIUM	4.352	17.51
METHYL BROMIDE	2.319	9.33
CHLORPYRIFOS	2.263	9.11
POTASSIUM N-METHYLDITHIOCARBAMATE	1.405	5.65
OXYFLUORFEN	0.944	3.80
GIBBERELLINS	0.712	2.86
DIMETHOATE	0.661	2.66
ABAMECTIN	0.544	2.19
ACROLEIN	0.418	1.68

**TABLE A2-2b:** Top ten primary active ingredients contributing to **2008** May–October ozone season *unadjusted* VOC emissions in NAA 2, the San Joaquin Valley.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 2 May – Oct 2008 emissions
1,3-DICHLOROPROPENE	4.611	19.40
METAM-SODIUM	4.129	17.37
METHYL BROMIDE	2.223	9.35
CHLORPYRIFOS	2.221	9.34
POTASSIUM N-METHYLDITHIOCARBAMATE	1.622	6.82
OXYFLUORFEN	0.841	3.54
GIBBERELLINS	0.660	2.78
DIMETHOATE	0.610	2.57
ABAMECTIN	0.583	2.45
FENPYROXIMATE	0.402	1.69

**TABLE A2-2c:** Top ten primary active ingredients contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 2, the San Joaquin Valley.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 2 May – Oct 2009 emissions
1,3-DICHLOROPROPENE	4.255	20.84
METAM-SODIUM	4.079	19.98
CHLORPYRIFOS	1.389	6.80
METHYL BROMIDE	1.188	5.82
POTASSIUM N-METHYLDITHiocarbamate	0.956	4.68
OXYFLUORFEN	0.807	3.95
GIBBERELLINS	0.697	3.41
ABAMECTIN	0.694	3.40
DIMETHOATE	0.489	2.39
GLUFOSINATE-AMMONIUM	0.398	1.95

**TABLE A2-2d:** Top ten primary active ingredients contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 2, the San Joaquin Valley.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 2 May – Oct 2010 emissions
1,3-DICHLOROPROPENE	5.592	22.45
METAM-SODIUM	4.260	17.10
CHLORPYRIFOS	1.828	7.34
POTASSIUM N-METHYLDITHiocarbamate	1.451	5.82
METHYL BROMIDE	1.379	5.54
BIFENTHRIN	0.970	3.89
ABAMECTIN	0.967	3.88
OXYFLUORFEN	0.687	2.76
GIBBERELLINS	0.678	2.72
GLYPHOSATE, ISOPROPYLAMINE SALT	0.459	1.84

**TABLE A2-2e:** Top ten pesticide application sites contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 2.

Application Site	Emissions (tons/day)	Percent of all NAA 2 May – Oct 2007 emissions
CARROTS, GENERAL	3.946	15.92
ALMOND	3.899	15.73
GRAPES	1.405	5.67
ORANGE (ALL OR UNSPEC)	1.300	5.24
N-OUTDR CONTAINER/FLD GRWN PLANTS	1.076	4.34
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	1.062	4.28
COTTON, GENERAL	1.026	4.14
POTATO (WHITE, IRISH, RED, RUSSET)	0.942	3.80
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS, ETC.)	0.776	3.13
TOMATOES, FOR PROCESSING/CANNING	0.767	3.09

**TABLE A2-2f:** Top ten pesticide application sites contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 2.

Application Site	Emissions (tons/day)	Percent of all NAA 2 May – Oct 2008 emissions
CARROTS, GENERAL	4.091	17.21
ALMOND	2.853	12.00
TOMATOES, FOR PROCESSING/CANNING	1.355	5.70
ORANGE (ALL OR UNSPEC)	1.349	5.68
N-OUTDR CONTAINER/FLD GRWN PLANTS	1.249	5.25
COTTON, GENERAL	1.203	5.06
POTATO (WHITE, IRISH, RED, RUSSET)	1.065	4.48
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	1.019	4.29
GRAPES	0.923	3.88
ALFALFA (FORAGE - FODDER) (ALFALFA HAY)	0.880	3.70

**TABLE A2-2g:** Top ten pesticide application sites contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 2.

Application Site	Emissions (tons/day)	Percent of all NAA 2 May – Oct 2009 emissions
CARROTS, GENERAL	3.534	17.30
ALMOND	3.115	15.26
ORANGE (ALL OR UNSPEC)	1.246	6.10
GRAPES	1.123	5.50
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.900	4.41
TOMATOES, FOR PROCESSING/CANNING	0.852	4.17
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.791	3.88
POTATO (WHITE, IRISH, RED, RUSSET)	0.774	3.79
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	0.746	3.65
COTTON, GENERAL	0.694	3.40

**TABLE A2-2h:** Top ten pesticide application sites contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 2.

Application Site	Emissions (tons/day)	Percent of all NAA 2 May – Oct 2010 emissions
ALMOND	4.258	17.10
CARROTS, GENERAL	3.609	14.49
COTTON, GENERAL	1.539	6.18
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	1.313	5.27
GRAPES	1.274	5.12
TOMATOES, FOR PROCESSING/CANNING	1.244	5.00
N-OUTDR CONTAINER/FLD GRWN PLANTS	1.025	4.11
ORANGE (ALL OR UNSPEC)	1.016	4.08
WALNUT (ENGLISH WALNUT, PERSIAN WALNUT)	0.899	3.61
POTATO (WHITE, IRISH, RED, RUSSET)	0.874	3.51

**TABLE A2-2i:** *Unadjusted 2007* May–October VOC emissions in NAA 2 by ARB emission inventory classification (tons per day, tpd).

NAA 2 - 2007	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	1.905	0.012
NON-METHYL BROMIDE EMISSIONS	22.181	0.292

**TABLE A2-2j:** *Unadjusted 2008* May–October VOC emissions in NAA 2 by ARB emission inventory classification (tons per day, tpd).

NAA 2 - 2008	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	1.737	0.014
NON-METHYL BROMIDE EMISSIONS	21.227	0.323

**TABLE A2-2k:** *Unadjusted 2009* May–October VOC emissions in NAA 2 by ARB emission inventory classification (tons per day, tpd).

NAA 2 - 2009	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.908	0.012
NON-METHYL BROMIDE EMISSIONS	19.043	0.190

**TABLE A2-2l:** *Unadjusted 2010* May–October VOC emissions in NAA 2 by ARB emission inventory classification (tons per day, tpd).

NAA 2 - 2010	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	1.044	0.000
NON-METHYL BROMIDE EMISSIONS	23.288	0.240

### 3. Southeast Desert - NAA 3

**TABLE A2-3a:** Top ten primary active ingredients contributing to **2007** May–October ozone season *unadjusted* VOC emissions in NAA 3, the Southeast Desert.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 3 May – Oct 2007 emissions
METAM-SODIUM	0.504	39.58
METHYL BROMIDE	0.317	24.93
1,3-DICHLOROPROPENE	0.204	16.03
SODIUM TETRATHIOCARBONATE	0.056	4.42
PERMETHRIN	0.020	1.59
BENSULIDE	0.017	1.31
EPTC	0.010	0.75
MALATHION	0.008	0.63
MEFENOXAM	0.007	0.57
GLYPHOSATE, ISOPROPYLAMINE SALT	0.007	0.54

**TABLE A2-3b:** Top ten primary active ingredients contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 3, the Southeast Desert.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 3 May – Oct 2008 emissions
METAM-SODIUM	0.352	40.69
1,3-DICHLOROPROPENE	0.242	28.03
POTASSIUM N-METHYLDITHiocarbamate	0.051	5.94
METHYL BROMIDE	0.029	3.31
PERMETHRIN	0.013	1.51
SODIUM TETRATHiocarbonATE	0.013	1.47
BENSULIDE	0.012	1.44
EPTC	0.011	1.24
DAZOMET	0.010	1.21
MEFENOXM	0.008	0.88

**TABLE A2-3c:** Top ten primary active ingredients contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 3, the Southeast Desert.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 3 May – Oct 2009 emissions
METAM-SODIUM	0.352	57.25
METHYL BROMIDE	0.077	12.50
BENSULIDE	0.019	3.07
DAZOMET	0.017	2.70
SODIUM TETRATHiocarbonATE	0.014	2.23
1,3-DICHLOROPROPENE	0.011	1.85
PERMETHRIN	0.009	1.53
EPTC	0.007	1.17
SULFUR	0.007	1.16
TRIFLURALIN	0.005	0.85

**TABLE A2-3d:** Top ten primary active ingredients contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 3, the Southeast Desert.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 3 May – Oct 2010 emissions
METAM-SODIUM	0.589	59.27
CHLOROPICRIN	0.147	14.82
1,3-DICHLOROPROPENE	0.036	3.62
BENSULIDE	0.032	3.26
SODIUM TETRATHiocarbonATE	0.014	1.45
DAZOMET	0.012	1.25
METHYL BROMIDE	0.012	1.23
EPTC	0.011	1.16
GLYPHOSATE, ISOPROPYLAMINE SALT	0.010	1.04
GIBBERELLINS	0.010	1.01

**TABLE A2-3e:** Top ten pesticide application sites contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 3.

Application Site	Emissions (tons/day)	Percent of all NAA 3 May – Oct 2007 emissions
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.311	24.43
ORNAMENTAL TURF (ALL OR UNSPEC)	0.207	16.22
STRAWBERRY (ALL OR UNSPEC)	0.184	14.45
POTATO (WHITE, IRISH, RED, RUSSET)	0.121	9.47
UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)*	0.083	6.48
GRAPES	0.073	5.71
STRUCTURAL PEST CONTROL	0.059	4.66
WATERMELONS	0.043	3.37
LANDSCAPE MAINTENANCE	0.024	1.85
CELERY, GENERAL	0.019	1.50

\* Treatment of an area prior to determining which crop will be planted.

**TABLE A2-3f:** Top ten pesticide application sites contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 3.

Application Site	Emissions (tons/day)	Percent of all NAA 3 May – Oct 2008 emissions
CARROTS, GENERAL	0.287	33.17
STRAWBERRY (ALL OR UNSPEC)	0.185	21.37
UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	0.099	11.48
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.069	7.94
STRUCTURAL PEST CONTROL	0.045	5.18
WATERMELONS	0.030	3.45
LANDSCAPE MAINTENANCE	0.026	2.95
GRAPES	0.018	2.10
RIGHTS OF WAY	0.018	2.05
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.015	1.70

\*Treatment of an area prior to determining which crop will be planted.

**TABLE A2-3g:** Top ten pesticide application sites contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 3.

Application Site	Emissions (tons/day)	Percent of all NAA 3 May – Oct 2009 emissions
CARROTS, GENERAL	0.127	20.71
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.109	17.67
ORNAMENTAL TURF (ALL OR UNSPEC)	0.067	10.83
UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	0.049	7.96
STRUCTURAL PEST CONTROL	0.043	6.99
SPINACH	0.026	4.21
WATERMELONS	0.024	3.88
RIGHTS OF WAY	0.022	3.62
CHINESE AMARANTH, CHINESE SPINACH (TAMPALA)	0.019	3.14
LANDSCAPE MAINTENANCE	0.019	3.10

\* Treatment of an area prior to determining which crop will be planted.

**TABLE A2-3h:** Top ten pesticide application sites contributing to **2010** May–October ozone season *unadjusted* VOC emissions in NAA 3.

Application Site	Emissions (tons/day)	Percent of all NAA 3 May – Oct 2010 emissions
PEPPERS (FRUITING VEGETABLE), (BELL, CHILI, ETC.)	0.275	27.71
STRAWBERRY (ALL OR UNSPEC)	0.149	14.96
CARROTS, GENERAL	0.087	8.71
WATERMELONS	0.079	7.94
LETTUCE, LEAF (ALL OR UNSPEC)	0.056	5.64
UNCULTIVATED AGRICULTURAL AREAS (ALL OR UNSPEC)	0.053	5.32
STRUCTURAL PEST CONTROL	0.051	5.11
CAULIFLOWER	0.029	2.95
POTATO (WHITE, IRISH, RED, RUSSET)	0.028	2.81
GRAPES	0.027	2.68

\*Treatment of an area prior to determining which crop will be planted.

**TABLE A2-3i:** *Unadjusted 2007* May–October VOC emissions in NAA 3 by ARB emission inventory classification (tons per day, tpd).

NAA 3 - 2007	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.286	0.000
NON-METHYL BROMIDE EMISSIONS	0.895	0.061

**TABLE A2-3j:** *Unadjusted 2008* May–October VOC emissions in NAA 3 by ARB emission inventory classification (tons per day, tpd).

NAA 3 - 2008	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.028	0.000
NON-METHYL BROMIDE EMISSIONS	0.789	0.046

**TABLE A2-3k:** *Unadjusted 2009* May–October VOC emissions in NAA 3 by ARB emission inventory classification (tons per day, tpd).

NAA 3 - 2009	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.075	0.000
NON-METHYL BROMIDE EMISSIONS	0.493	0.045

**TABLE A2-3l:** *Unadjusted 2010* May–October VOC emissions in NAA 3 by ARB emission inventory classification (tons per day, tpd).

NAA 3 - 2010	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.012	0.000
NON-METHYL BROMIDE EMISSIONS	0.931	0.051

#### 4. Ventura - NAA 4

**TABLE A2-4a:** Top ten primary active ingredients contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 4, Ventura.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 4 May – Oct 2007 emissions
1,3-DICHLOROPROPENE	3.705	40.77
METHYL BROMIDE	2.998	33.00
CHLOROPICRIN	1.446	15.91
METAM-SODIUM	0.496	5.46
CHLORPYRIFOS	0.045	0.49
MINERAL OIL	0.035	0.39
PETROLEUM OIL, UNCLASSIFIED	0.032	0.36
CLARIFIED HYDROPHOBIC EXTRACT OF NEEM OIL	0.032	0.35
ABAMECTIN	0.025	0.27
OXAMYL	0.024	0.26

**TABLE A2-4b:** Top ten primary active ingredients contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 4, Ventura.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 4 May – Oct 2008 emissions
1,3-DICHLOROPROPENE	3.356	45.82
CHLOROPICRIN	2.080	28.40
METHYL BROMIDE	0.915	12.50
METAM-SODIUM	0.405	5.53
CHLORPYRIFOS	0.079	1.09
POTASSIUM N-METHYLDITHIOCARBAMATE	0.078	1.07
MINERAL OIL	0.037	0.51
OXAMYL	0.036	0.49
PETROLEUM OIL, UNCLASSIFIED	0.035	0.48
CLARIFIED HYDROPHOBIC EXTRACT OF NEEM OIL	0.029	0.40

**TABLE A2-4c:** Top ten primary active ingredients contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 4, Ventura.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 4 May – Oct 2009 emissions
CHLOROPICRIN	4.174	61.44
METHYL BROMIDE	1.638	24.11
METAM-SODIUM	0.436	6.41
1,3-DICHLOROPROPENE	0.075	1.11
CHLORPYRIFOS	0.067	0.98
MINERAL OIL	0.041	0.61
CLARIFIED HYDROPHOBIC EXTRACT OF NEEM OIL	0.035	0.51
ABAMECTIN	0.033	0.49
OXAMYL	0.028	0.41
AZADIRACHTIN	0.022	0.33

**TABLE A2-4d:** Top ten primary active ingredients contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 4, Ventura.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 4 May – Oct 2010 emissions
CHLOROPICRIN	4.801	51.55
METHYL BROMIDE	1.661	17.83
1,3-DICHLOROPROPENE	1.611	17.29
METAM-SODIUM	0.627	6.73
POTASSIUM N-METHYLDITHIOCARBAMATE	0.143	1.53
CHLORPYRIFOS	0.043	0.46
MINERAL OIL	0.037	0.40
ABAMECTIN	0.031	0.33
PETROLEUM OIL, UNCLASSIFIED	0.029	0.31
OXAMYL	0.022	0.24

**TABLE A2-4e.** Top ten pesticide application sites contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 4.

Application Site	Emissions (tons/day)	Percent of all NAA 4 May – Oct 2007 emissions
STRAWBERRY (ALL OR UNSPEC)	5.117	56.32
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	3.463	38.11
LEMON	0.152	1.67
TOMATO	0.098	1.08
RASPBERRY (ALL OR UNSPEC)	0.052	0.57
STRUCTURAL PEST CONTROL	0.038	0.42
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.024	0.26
CELERY, GENERAL	0.018	0.20
ORNAMENTAL TURF (ALL OR UNSPEC)	0.017	0.19
AVOCADO (ALL OR UNSPEC)	0.017	0.18

**TABLE A2-4f.** Top ten pesticide application sites contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 4.

Application Site	Emissions (tons/day)	Percent of all NAA 4 May – Oct 2008 emissions
STRAWBERRY (ALL OR UNSPEC)	5.261	71.83
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	1.486	20.29
LEMON	0.187	2.55
TOMATO	0.109	1.49
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.034	0.46
STRUCTURAL PEST CONTROL	0.033	0.45
N-OUTDR GRWN CUT FLWRS OR GREENS	0.027	0.37
AVOCADO (ALL OR UNSPEC)	0.025	0.35
CELERY, GENERAL	0.021	0.29
ORNAMENTAL TURF (ALL OR UNSPEC)	0.020	0.28

**TABLE A2-4g.** Top ten pesticide application sites contributing to **2009** May–October ozone season *unadjusted* VOC emissions in NAA 4.

Application Site	Emissions (tons/day)	Percent of all NAA 4 May – Oct 2009 emissions
STRAWBERRY (ALL OR UNSPEC)	4.416	65.00
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	1.783	26.25
LEMON	0.168	2.47
TOMATO	0.099	1.45
RASPBERRY (ALL OR UNSPEC)	0.089	1.31
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.035	0.52
AVOCADO (ALL OR UNSPEC)	0.030	0.45
ORNAMENTAL TURF (ALL OR UNSPEC)	0.028	0.41
N-OUTDR GRWN CUT FLWRS OR GREENS	0.025	0.37
CELERY, GENERAL	0.022	0.32

**TABLE A2-4h.** Top ten pesticide application sites contributing to **2010** May–October ozone season *unadjusted* VOC emissions in NAA 4.

Application Site	Emissions (tons/day)	Percent of all NAA 4 May – Oct 2010 emissions
STRAWBERRY (ALL OR UNSPEC)	7.493	80.44
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.981	10.54
RASPBERRY (ALL OR UNSPEC)	0.160	1.72
LEMON	0.158	1.69
TOMATO	0.149	1.60
N-OUTDR GRWN CUT FLWRS OR GREENS	0.085	0.92
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.036	0.38
AVOCADO (ALL OR UNSPEC)	0.031	0.33
STRUCTURAL PEST CONTROL	0.025	0.27
CELERY, GENERAL	0.023	0.25

**TABLE A2-4i:** *Unadjusted 2007* May–October VOC emissions in NAA 4 by ARB emission inventory classification (tons per day, tpd).

NAA 4 - 2007	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	1.949	0.000
NON-METHYL BROMIDE EMISSIONS	6.049	0.038

**TABLE A2-4j:** *Unadjusted 2008* May–October VOC emissions in NAA 4 by ARB emission inventory classification (tons per day, tpd).

NAA 4 - 2008	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.577	0.000
NON-METHYL BROMIDE EMISSIONS	6.376	0.033

**TABLE A2-4k:** *Unadjusted 2009* May–October VOC emissions in NAA 4 by ARB emission inventory classification (tons per day, tpd).

NAA 4 - 2009	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	1.134	0.000
NON-METHYL BROMIDE EMISSIONS	5.156	0.000

**TABLE A2-4l:** Unadjusted 2010 May–October VOC emissions in NAA 4 by ARB emission inventory classification (tons per day, tpd).

NAA 4 - 2010	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	1.073	0.000
NON-METHYL BROMIDE EMISSIONS	7.629	0.025

## 5. South Coast - NAA 5

**TABLE A2-5a:** Top ten primary active ingredients contributing to 2007 May–October ozone season unadjusted VOC emissions in NAA 5, South Coast.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 5 May – Oct 2007 emissions
METHYL BROMIDE	0.473	24.15
PERMETHRIN	0.275	14.05
1,3-DICHLOROPROPENE	0.271	13.83
LIMONENE	0.121	6.19
CHLOROPICRIN	0.078	3.97
BIFENTHRIN	0.077	3.93
N-OCTYL BICYCLOHEPTENE		
DICARBOXIMIDE	0.069	3.51
CYFLUTHRIN	0.042	2.15
CYPERMETHRIN	0.042	2.14
DISODIUM OCTABORATE TETRAHYDRATE	0.042	2.12

**TABLE A2-5b:** Top ten primary active ingredients contributing to 2008 May–October ozone season unadjusted VOC emissions in NAA 5, South Coast.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 5 May – Oct 2008 emissions
METHYL BROMIDE	0.635	32.19
1,3-DICHLOROPROPENE	0.320	16.22
PERMETHRIN	0.181	9.18
N-OCTYL BICYCLOHEPTENE		
DICARBOXIMIDE	0.116	5.87
CHLOROPICRIN	0.065	3.32
DISODIUM OCTABORATE TETRAHYDRATE	0.060	3.06
BIFENTHRIN	0.053	2.68
LIMONENE	0.037	1.90
CYFLUTHRIN	0.035	1.77
PIPERONYL BUTOXIDE	0.031	1.59

**TABLE A2-5c:** Top ten primary active ingredients contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 5, South Coast.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 5 May – Oct 2009 emissions
CHLOROPICRIN	0.325	20.18
METHYL BROMIDE	0.301	18.67
PERMETHRIN	0.200	12.38
N-OCTYL BICYCLOHEPTENE		
DICARBOXIMIDE	0.080	4.99
LIMONENE	0.070	4.36
CYFLUTHRIN	0.066	4.07
DAZOMET	0.037	2.32
BIFENTHRIN	0.037	2.31
PIPERONYL BUTOXIDE	0.036	2.26
DISODIUM OCTABORATE TETRAHYDRATE	0.035	2.20

**TABLE A2-5d:** Top ten primary active ingredients contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 5, South Coast.

Primary AI	Total Product Emissions (tons/day)	Percent of all NAA 5 May – Oct 2010 emissions
CHLOROPICRIN	0.315	15.70
CYFLUTHRIN	0.265	13.19
METHYL BROMIDE	0.231	11.51
PERMETHRIN	0.221	11.04
DISODIUM OCTABORATE TETRAHYDRATE	0.156	7.80
N-OCTYL BICYCLOHEPTENE		
DICARBOXIMIDE	0.091	4.54
1,3-DICHLOROPROPENE	0.076	3.79
IMIDACLOPRID	0.067	3.36
PIPERONYL BUTOXIDE	0.054	2.69
BIFENTHRIN	0.041	2.06

**TABLE A2-5e:** Top ten pesticide application sites contributing to **2007** May-October ozone season *unadjusted* VOC emissions in NAA 5.

Application Site	Emissions (tons/day)	Percent of all NAA 5 May – Oct 2007 emissions
STRUCTURAL PEST CONTROL	0.786	40.12
STRAWBERRY (ALL OR UNSPEC)	0.752	38.38
LANDSCAPE MAINTENANCE	0.161	8.23
FUMIGATION, OTHER	0.058	2.95
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.043	2.19
RIGHTS OF WAY	0.036	1.84
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.033	1.69
COMMODITY FUMIGATION	0.027	1.39
AVOCADO (ALL OR UNSPEC)	0.009	0.44
GRAPEFRUIT	0.008	0.41

**TABLE A2-5f:** Top ten pesticide application sites contributing to **2008** May-October ozone season *unadjusted* VOC emissions in NAA 5.

Application Site	Emissions (tons/day)	Percent of all NAA 5 May – Oct 2008 emissions
STRAWBERRY (ALL OR UNSPEC)	0.730	37.00
STRUCTURAL PEST CONTROL	0.634	32.16
COMMODITY FUMIGATION	0.232	11.74
LANDSCAPE MAINTENANCE	0.181	9.17
FUMIGATION, OTHER	0.064	3.24
RIGHTS OF WAY	0.035	1.76
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.033	1.65
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.010	0.52
CABBAGE	0.006	0.28
AVOCADO (ALL OR UNSPEC)	0.005	0.24

**TABLE A2-5g:** Top ten pesticide application sites contributing to **2009** May-October ozone season *unadjusted* VOC emissions in NAA 5.

Application Site	Emissions (tons/day)	Percent of all NAA 5 May – Oct 2009 emissions
STRUCTURAL PEST CONTROL	0.655	40.63
STRAWBERRY (ALL OR UNSPEC)	0.561	34.78
LANDSCAPE MAINTENANCE	0.156	9.69
RIGHTS OF WAY	0.050	3.09
FUMIGATION, OTHER	0.047	2.92
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.030	1.85
COMMODITY FUMIGATION	0.023	1.45
ORANGE (ALL OR UNSPEC)	0.012	0.73
PEPPERS (FRUITING VEGETABLE), (BELL,CHILI, ETC.)	0.011	0.70
CABBAGE	0.010	0.64

**TABLE A2-5h:** Top ten pesticide application sites contributing to **2010** May-October ozone season *unadjusted* VOC emissions in NAA 5.

Application Site	Emissions (tons/day)	Percent of all NAA 5 May – Oct 2010 emissions
STRUCTURAL PEST CONTROL	1.019	50.81
STRAWBERRY (ALL OR UNSPEC)	0.512	25.53
LANDSCAPE MAINTENANCE	0.165	8.21
FUMIGATION, OTHER	0.085	4.23
N-OUTDR GRWN CUT FLWRS OR GREENS	0.077	3.85
RIGHTS OF WAY	0.039	1.97
N-OUTDR CONTAINER/FLD GRWN PLANTS	0.026	1.27
COMMODITY FUMIGATION	0.019	0.95
ORANGE (ALL OR UNSPEC)	0.008	0.41
SOIL APPLICATION, PREPLANT-OUTDOOR (SEEDBEDS,ETC.)	0.008	0.40

**TABLE A2-5i:** *Unadjusted 2007* May–October VOC emissions in NAA 5 by ARB emission inventory classification (tons per day, tpd).

NAA 5 - 2007	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.343	0.002
NON-METHYL BROMIDE EMISSIONS	0.698	0.788

**TABLE A2-5j:** *Unadjusted 2008* May–October VOC emissions in NAA 5 by ARB emission inventory classification (tons per day, tpd).

NAA 5 - 2008	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.522	0.002
NON-METHYL BROMIDE EMISSIONS	0.701	0.637

**TABLE A2-5k:** *Unadjusted 2009* May–October VOC emissions in NAA 5 by ARB emission inventory classification (tons per day, tpd).

NAA 5 - 2009	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.227	0.002
NON-METHYL BROMIDE EMISSIONS	0.653	0.658

**TABLE A2-5l:** *Unadjusted 2010* May–October VOC emissions in NAA 5 by ARB emission inventory classification (tons per day, tpd).

NAA 5 - 2010	Agricultural Applications	Structural Applications
METHYL BROMIDE EMISSIONS	0.189	0.002
NON-METHYL BROMIDE EMISSIONS	0.756	1.018